

WHAT IS CLAIMED IS:

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1. A welding method for a Si-based material, comprising:
generating an arc between a first second electrodes;
bringing said Si-based material close to an arc column; and
performing welding by melting said Si-based material using heat of arc
plasma.
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2. The welding method for a Si-based material according to claim 1,
further comprising:
a water cooling plate is used as an anode side electrode of said first and
second electrodes.
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3. The welding method for a Si-based material according to claim 1,
wherein a tungsten electrode is used as a cathode side electrode of said first
and second electrodes.
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4. The welding method for a Si-based material according to claim 1,
further comprising:
providing means for improving a directionality of said arc.
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5. The welding method for a Si-based material according to claim 2,
further comprising:
providing means for improving a directionality of said arc.

A²
contd

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after said generating step, an arc length is gradually extended prior to bringing said Si-based material close to said arc column.